

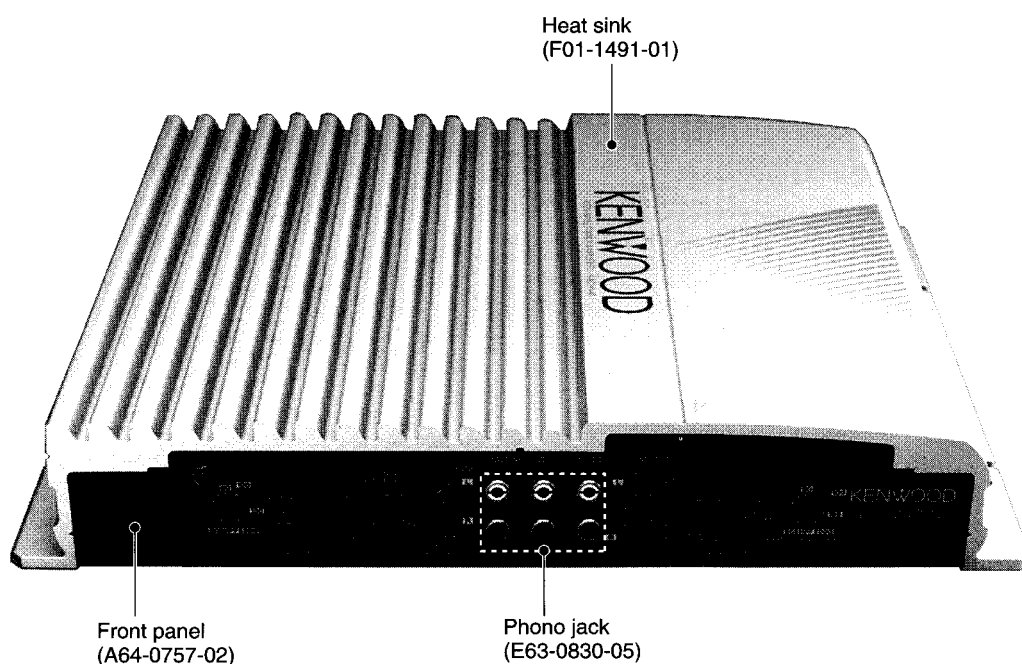
POWER AMPLIFIER

# KAC-846

## SERVICE MANUAL

# KENWOOD

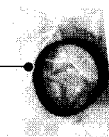
© 1996-5 PRINTED IN KOREA  
B51-7019-00 (K) 3608



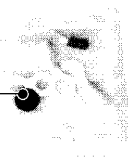
Screw set  
(N99-1587-05)



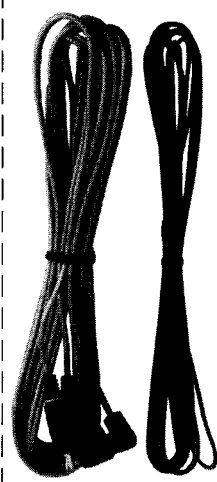
Rubber tube assy  
(W01-0747-05)



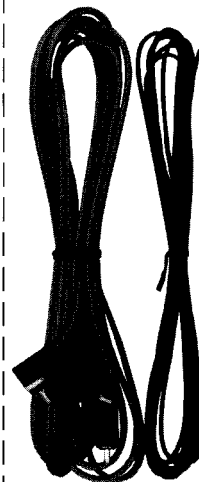
Terminal set  
(W01-0746-05)



DC cord assy  
(E30-4323-05)



Audio cord assy  
(E30-4067-05)



Audio cord assy  
(E30-4067-05)

— E and M type only —

— M type only —

## CONTENTS / CONNECTION

### CONTENTS

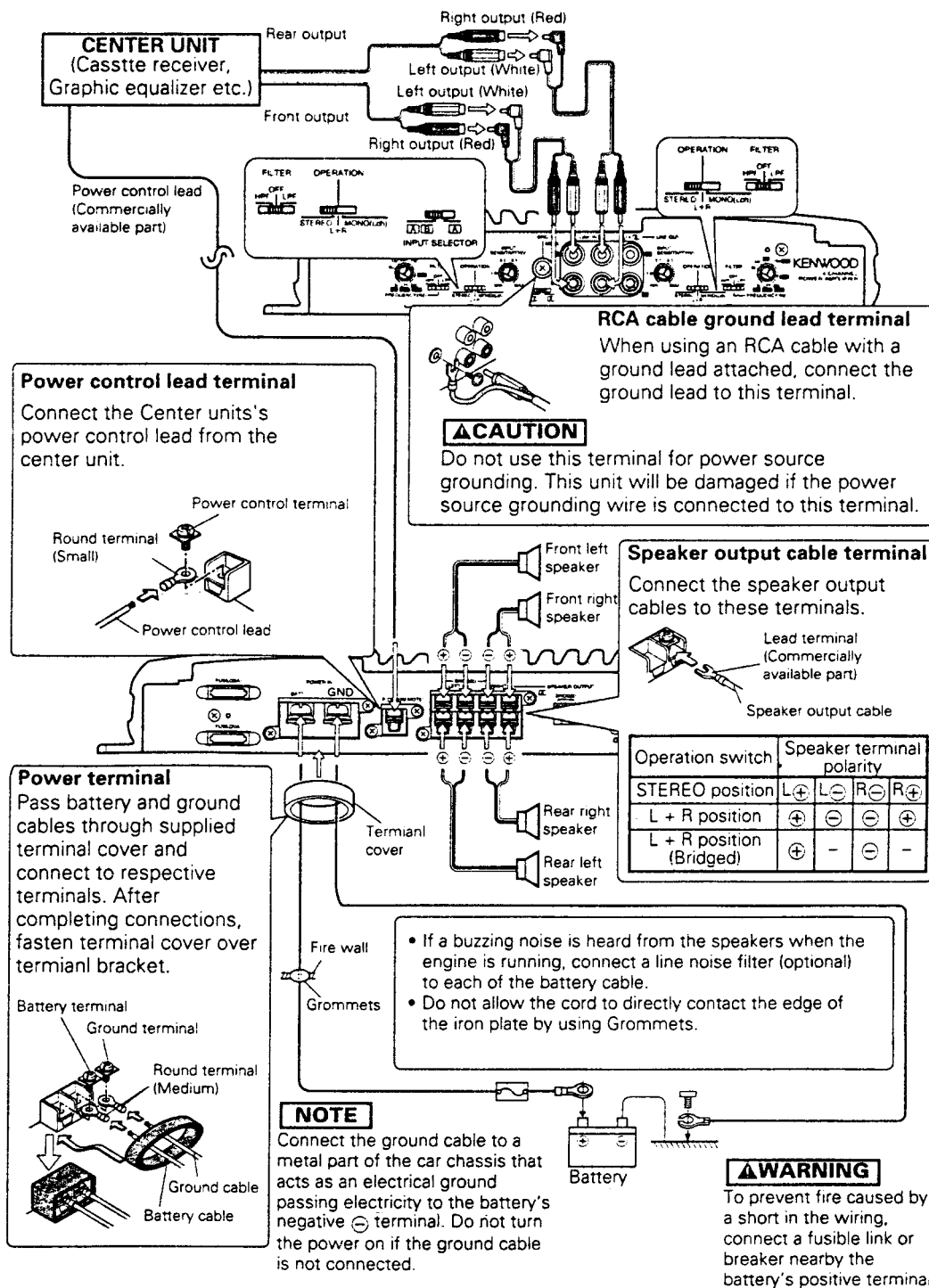
CONNECTION .....	2
BLOCK DIAGRAM .....	3
COMPONENTS DESCRIPTION	
PREAMPLIFIER UNIT (X08+) .....	4
AUDIO UNIT (X09-) .....	4
ADJUSTMENT/EINSTELLUNGEN .....	5

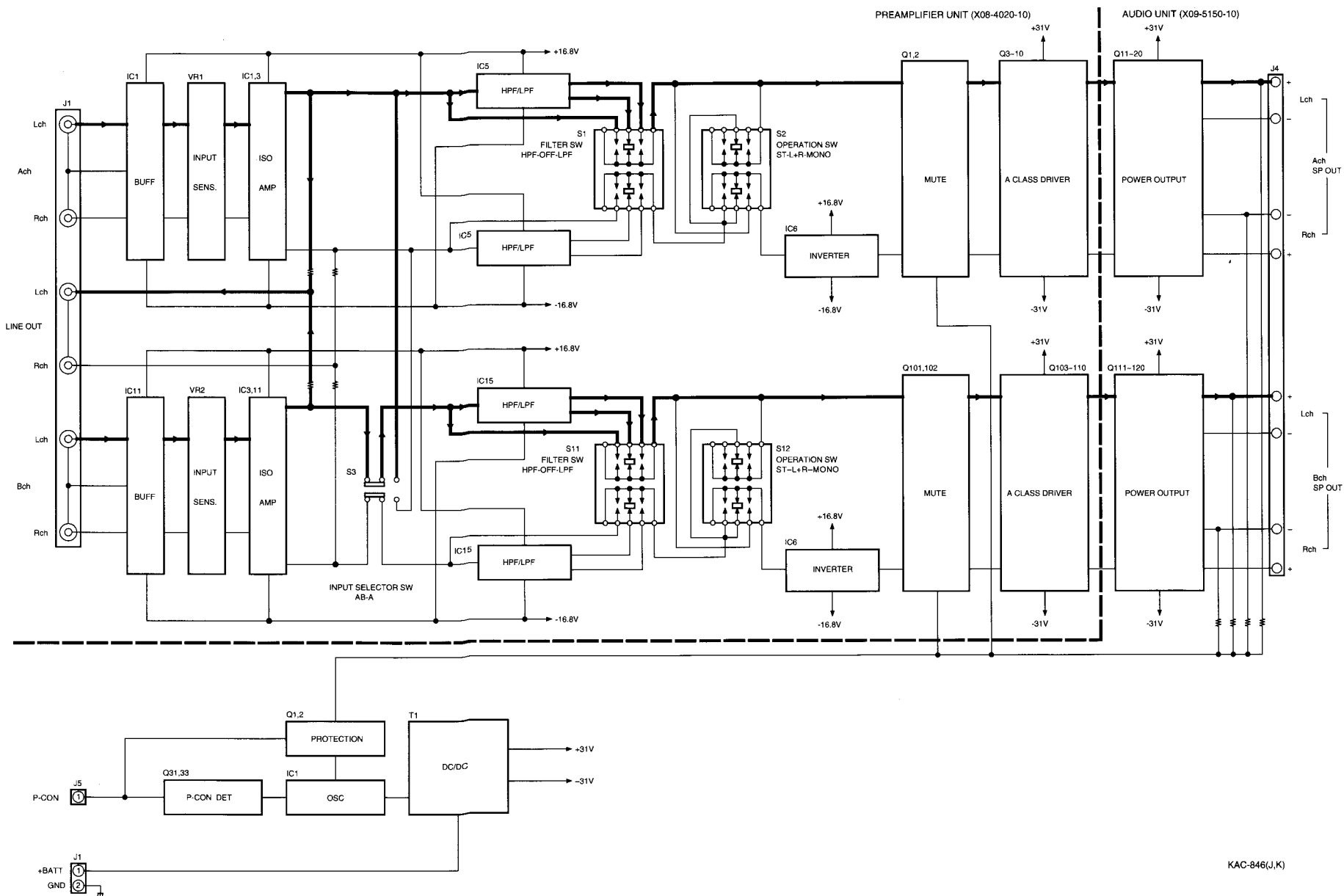
PC BOARD .....	7
SCHEMATIC DIAGRAM .....	11
EXPLODED VIEW .....	15
PARTS LIST .....	16
SPECIFICATIONS .....	Back cover

### CONNECTION

## Connection (KAC-846)

### ■ Full-range 4-channel system





# BLOCK DIAGRAM

KAC-846

KAC-846(J,K)

## COMPONENTS DESCRIPTION

### PREAMPLIFIER UNIT (X08-4020-10)

Ref. No.	Use and Function	Operation and Condition
IC1,11	INPUT BUFFER	IC1,11(1/4, 2/4)
IC1,3,11	ISOLATION AMP	IC1,11(3/4, 4/4)
IC5,15	LPF	IC5,15(1/4, 4/4)
IC5,15	HPF	IC5,15(2/4, 3/4)
IC6	INVERTER CIRCUIT	
Q1,2,101,102	MUTE	
Q3 ~Q6,103 ~106	INPUT DIFFERENTIAL AMP	
Q7 ~10,107 ~110	2ND STAGE DIFFERENTIAL AMP	

### AUDIO UNIT (X09-5150-10)

Ref. No.	Use and Function	Operation and Control
IC1	SWITCHING REGULATOR	Oscillator for DC/DC converter.
Q1,2	DC PROTECTION	
Q11,12,111,112	TEMPERATURE COMPENSATION	
Q23,24	SWITCHING DRIVE	
Q25,26	SWITCHING DRIVE	
Q27 ~30	SWITCHING POWER STAGE	
Q13,14,113,114	POWER AMP DRIVE STAGE	
Q15,16,115,116	POWER AMP DRIVE STAGE	
Q17,18,117,118	POWER STAGE	
Q19,20,119,120	POWER STAGE	
Q21,22,121,122	OVER-CURRENT PROTECTION	Turns IC1 OFF in case of over current.
Q3	MUTE DRIVE	
Q4	OVER-VOLTAGE PROTECTION	Turns Q31 OFF when the supply voltage is 18V or more.
Q31	P-CON DETECT	
Q32	POWER SW	Turns the power to IC1 ON/OFF.
Q33	P-CON DETECT	
Q7,107	SUB-MUTE	Activated only when power supply varies.
Q35,36	MAIN AMP POWER SW	

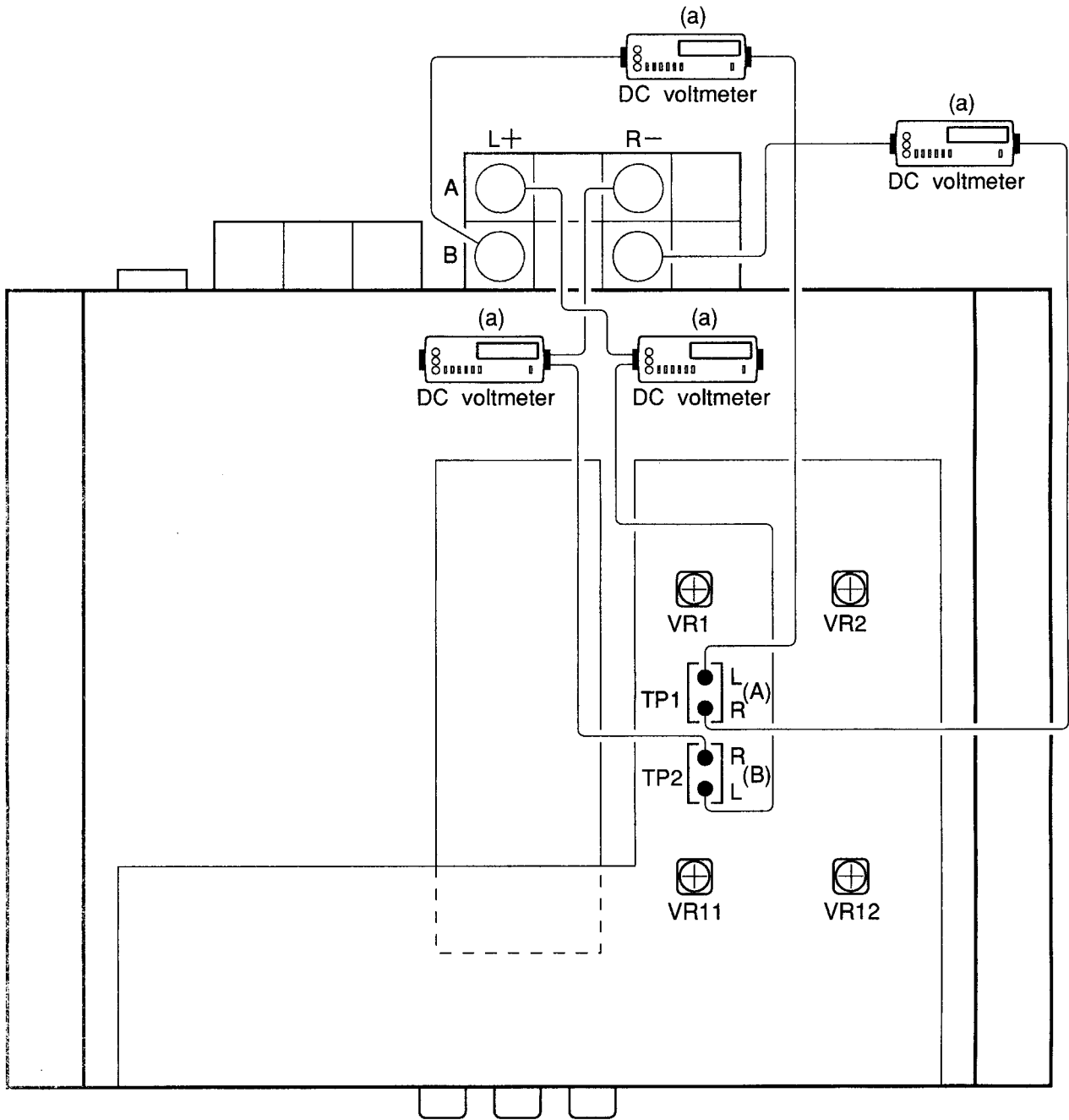
## ADJUSTMENT

No.	Item	Input Setting	Output Setting	Amp Setting	Adjustment Point	Adjustment Method	Fig.
Connect the cassette reciver, etc.							
1	Idle current	—	Connect a DC voltmeter between TP1/TP2 and SP- OUT L+/R-.	VOLUME : 0	(A) VR1 (Lch) VR2 (Rch) (B) VR11 (Lch) VR12 (Rch)	25mV	(a)

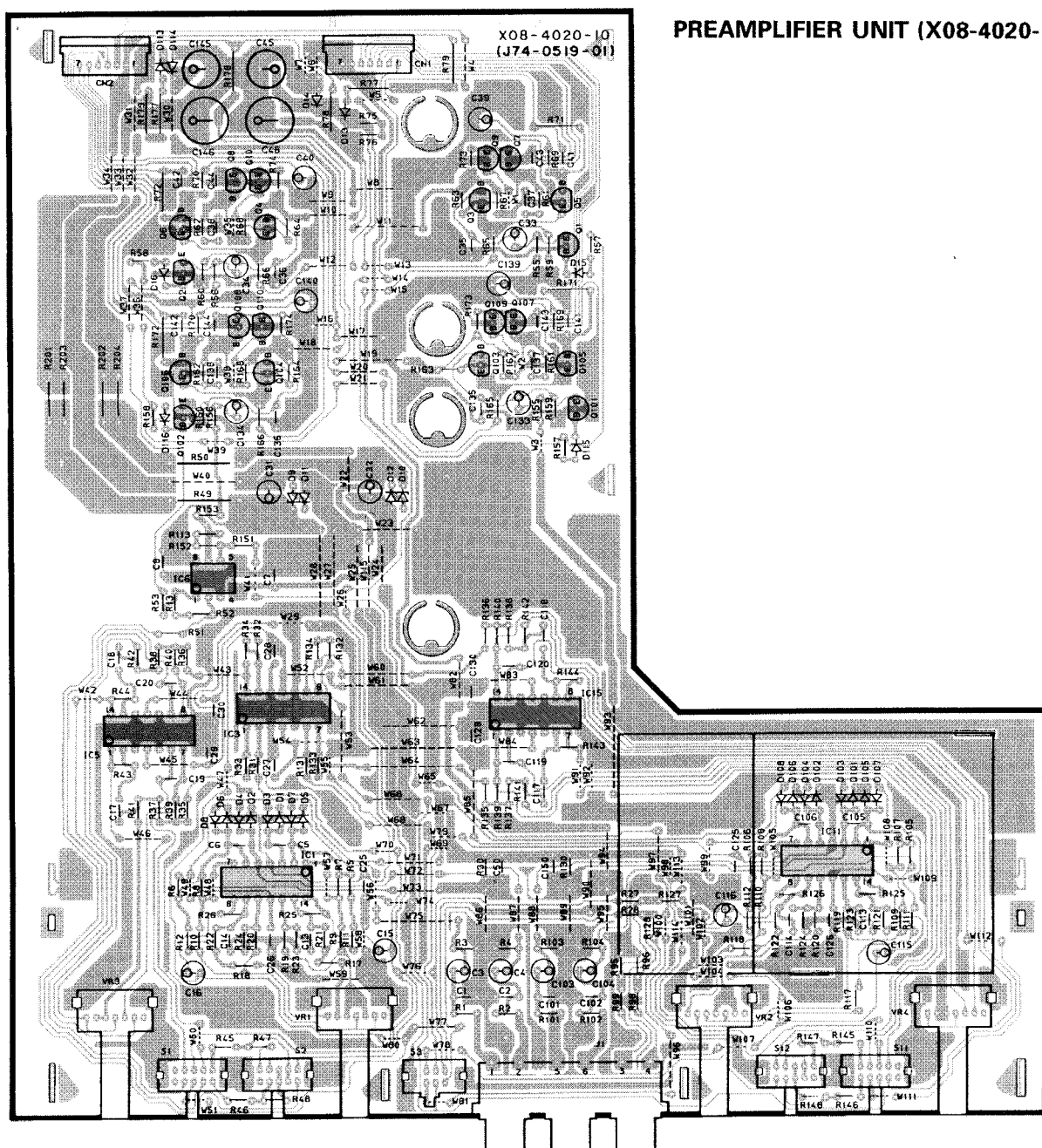
## EINSTELLUNGEN

Nr.	Gegenstand	Eingangseinstellung	Ausgangseinstellung	Verstaerkereinstellung	Einstellpunkt	Einstellmethode	Abb.
Das Kassettengerat, den Empfaenger usw. anschliessen.							
1	Idle current	—	Ein Gleichstrom-Voltmeter zwischen TP1/ TP2 und SP-OUT L+/R- anschliessen.	VOLUM : 0	(A) VR1 (Lch) VR2 (Rch) ( B ) VR11 (Lch) VR12 (Rch )	25mV	(a)

ADJUSTMENT



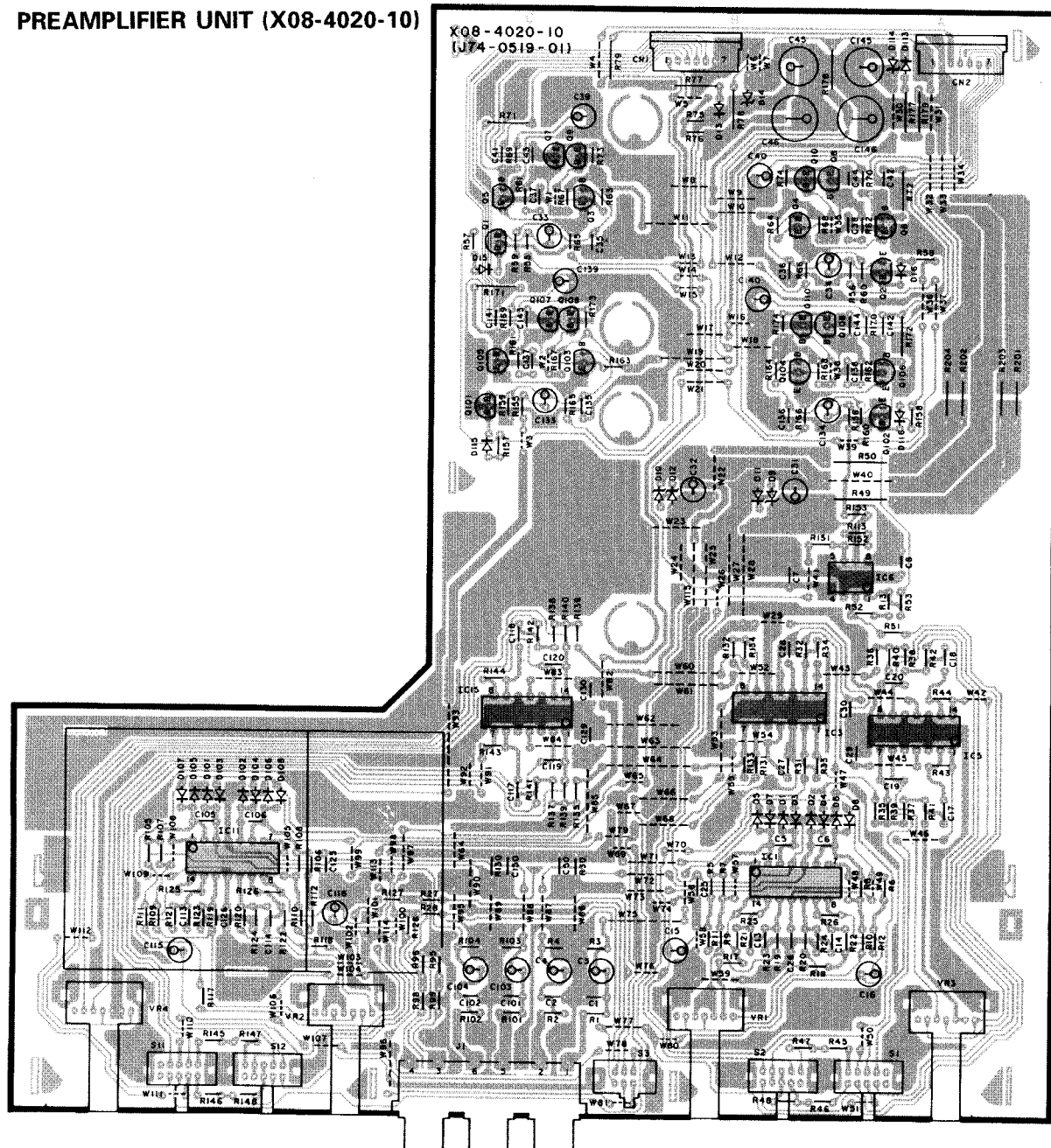
# PC BOARD (Component side view)



PREAMPLIFIER UNIT (X08-4020-10)

# PC BOARD (Foil side view)

## PREAMPLIFIER UNIT (X08-4020-10)





# PC BOARD (Component side view)

## AUDIO UNIT (X09-5150-10)

X09-5150-10  
(J74-0520-01)

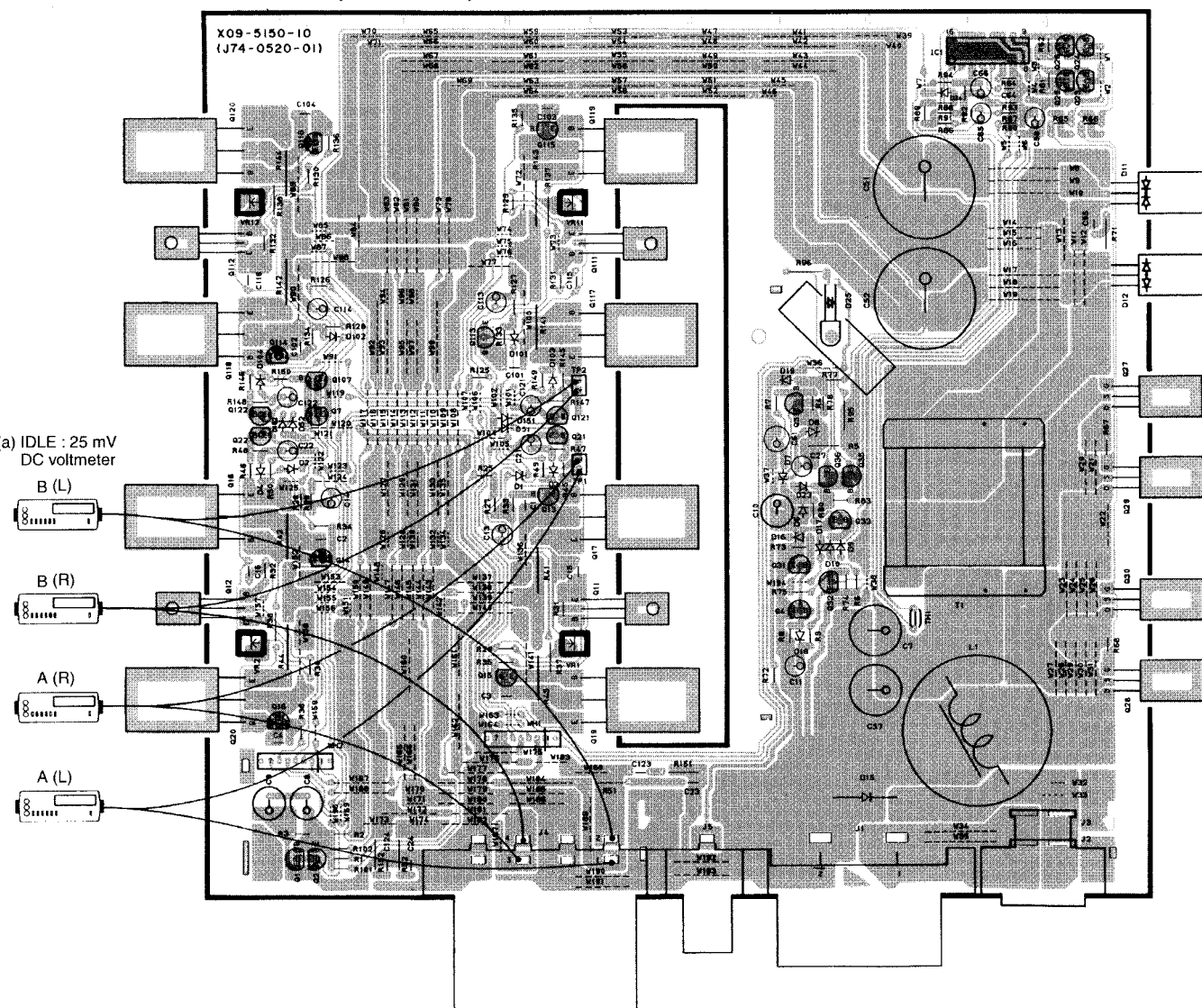
(a) IDLE : 25 mV  
DC voltmeter

B (L)

B (R)

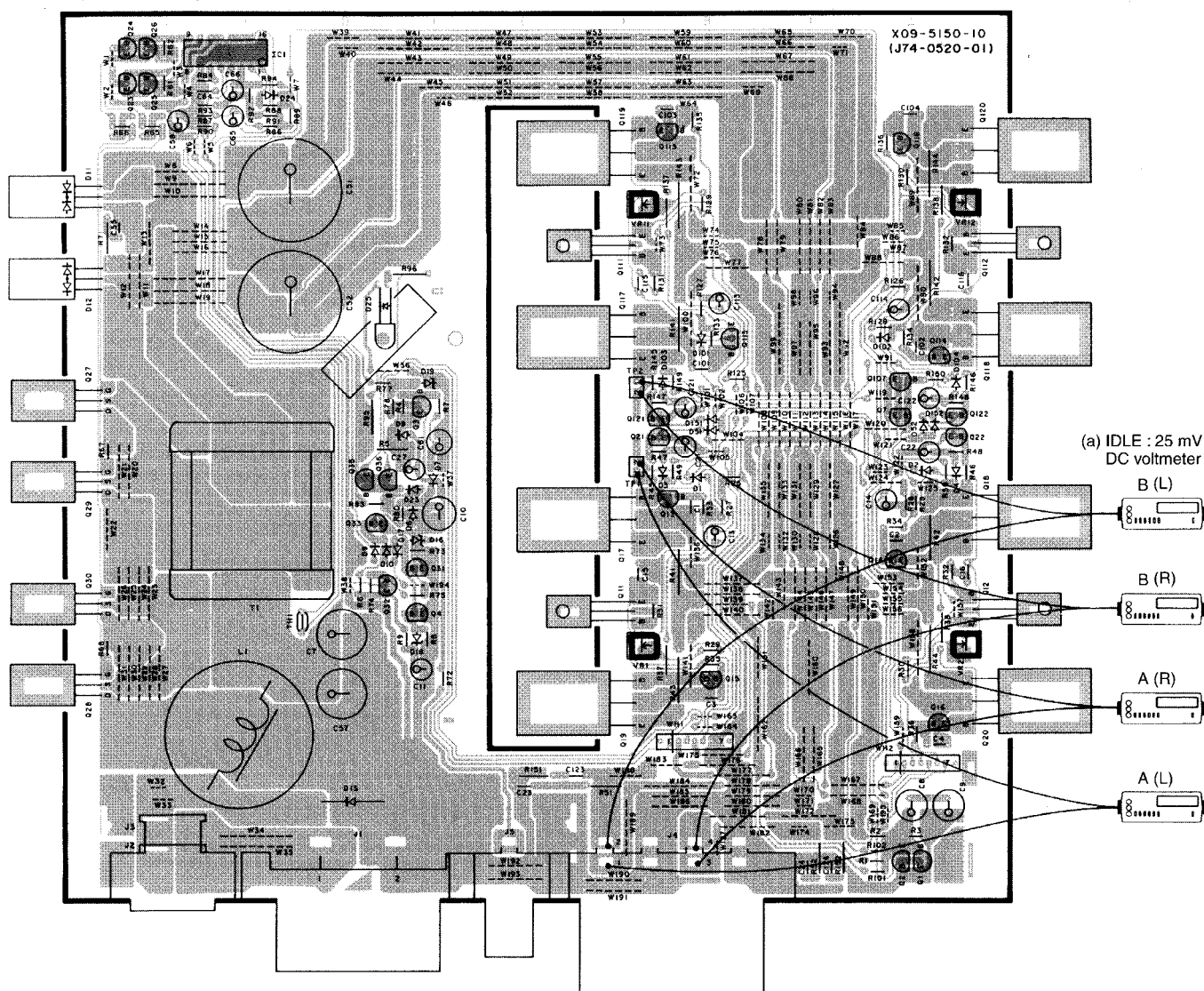
A (R)

A (L)



# (Foil side view)

## AUDIO UNIT (X09-5150-10)



A

B

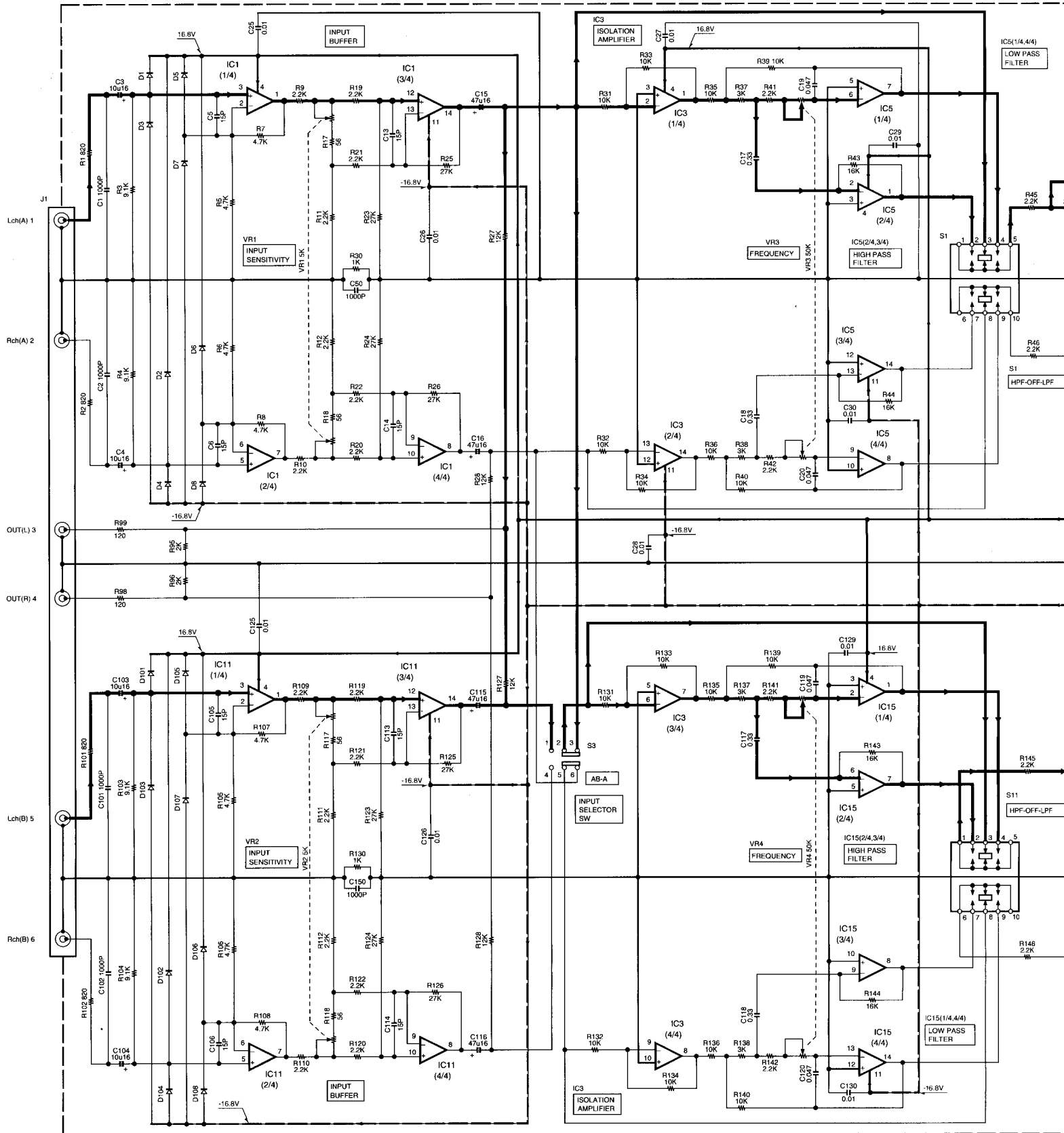
C

D

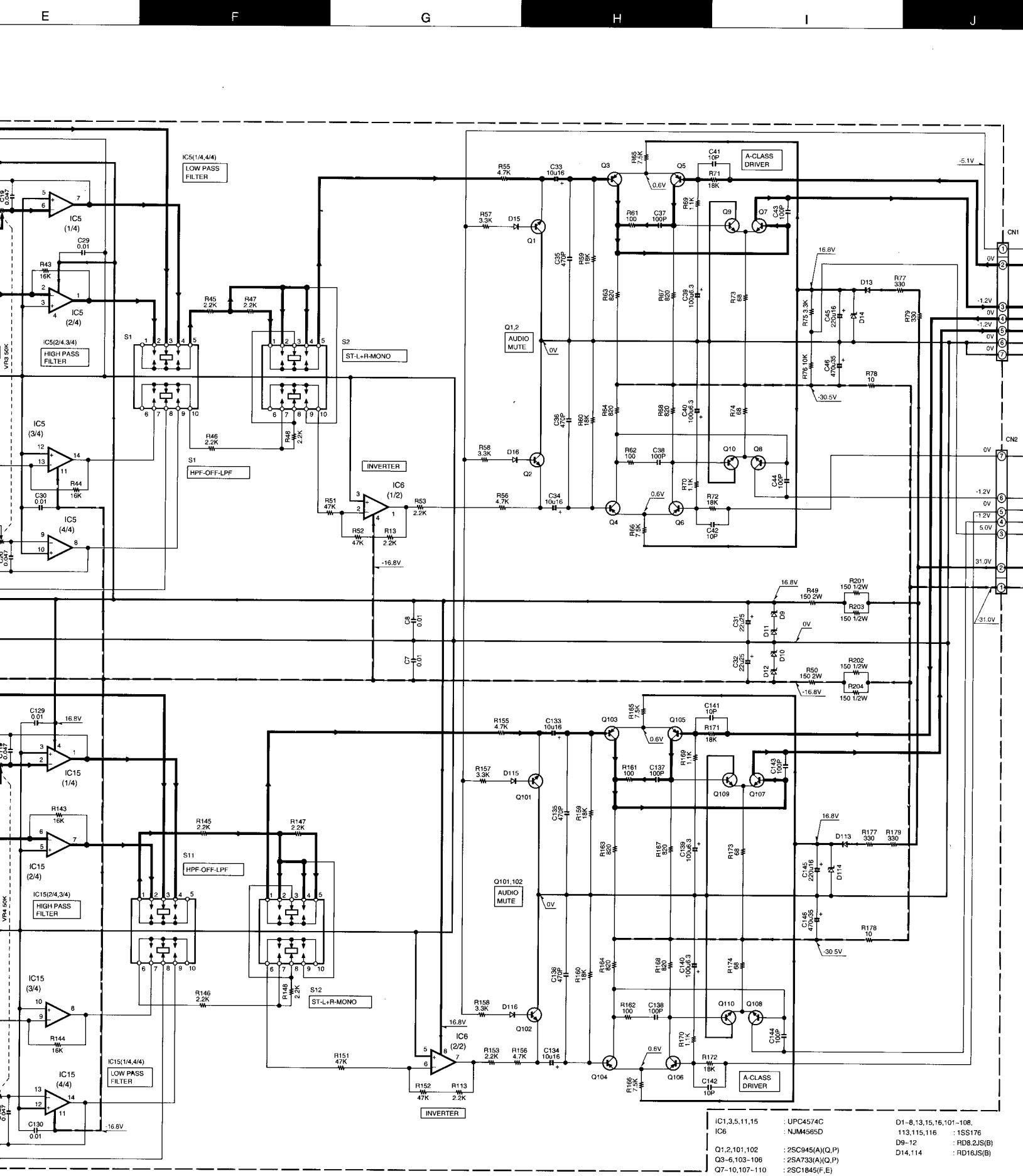
E

F

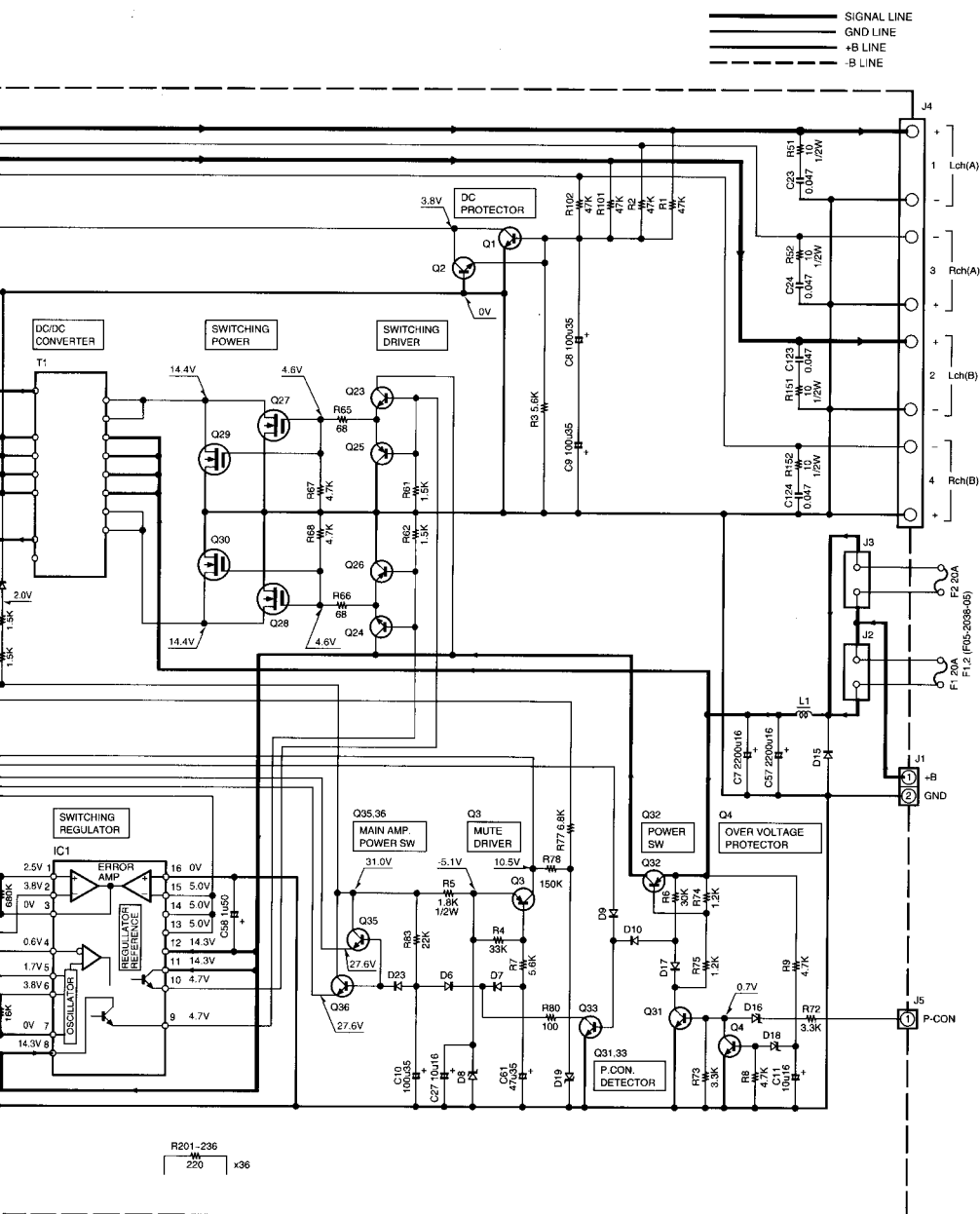
## PREAMPLIFIER UNIT (X08-4020-10)



**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.





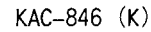


IC1	: UPC494C	Q1,2,4,21-24,31,33,121,122	: 2SC945(A)(Q,P)
D1-4,6,7,9,10,17,23,51,52,	: 1SS176	Q3,25,26,32	: 2SA733(A)(Q,P)
101-104,151,152		Q7,107	: 2SC1845(F,E)
D8	: RD10JS(B)	Q11,12,111,112	: 2SC2590(Q,R)
D11	: D10LC20UWA	Q13,14,113,114	: 2SC1627A
D12	: D10LC20UWA	Q15,16,115,116	: 2SA817A
D15	: RM4ZLF-J1	Q17,18,117,118	: 2SC5100LB
D16	: RD7.5JS(B)	Q19,20,119,120	: 2SA1908LB
D18	: RD20JS(B)	Q27-30	: MTAJ30N06ELFK
D19	: RD5.1JS(B)	Q35,36	: 2SC3940A(R,S)
D25	: B30-1460-05		

KAC-846(J,K)

Recommended parts  
 Note: Replace only  
 The measurements  
 The measurement value may vary depending on the  
 measuring instruments used or on the product.

## B



## PARTS LIST

## \*New Parts

Parts without Part No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d d	N e w	Prts No.	Description	Dest inati on
<b>KAC-846</b>					
2	2A	*	A64-0757-02	FRONT PANEL	
3	2B	*	A84-0094-02	REAR PANEL	
4	3B	*	B19-1060-03	LIGHTING BOARD	
-			B46-0100-40	WARRANTY CARD	
-			B64-0771-00	INST. MANUAL (ENG., FRE., SPA.)	K
-		*	B64-0772-00	INST. MANUAL (ENG. FRE. GER. DUT)	E
-		*	B64-0772-00	INST. MANUAL (ITA., SPA., POR.)	E
-			B64-0774-00	INST. MANUAL (ENG., FRE., SPA.)	M
6	1A		E30-4067-05	AUDIO CORD ASSY (Accessory)	M
DC1	1A		E30-4323-05	DC CORD ASSY (Accessory) (CC)	EM
12	3B	*	F01-1491-01	HEAT SINK (TOP COVER)	
F1 , 2	2B		F05-2038-05	FUSE (BLADE TYPE) (20A)	
14	2A	*	H12-2602-03	PACKING FIXTURE (x1)	
15	2A		H12-2606-04	PACKING FIXTURE (x2)	
-			H25-0321-04	PROTECTION BAG (600x315x0.03)	
-			H25-0336-04	PROTECTION BAG (170x250x0.03)	
-		*	H54-0587-03	ITEM CARTON CASE	
-		*	H64-0623-04	OUTER CARTON CASE	
21	1A		N99-1587-05	SCREW SET (Accessory)	
A	3A		N09-4026-05	TAPPING SCREW (4x8, TP, S)	
B	2B		N09-4102-05	SEMS (MACHINE SCREW) (2.6x10)	
C	3A		N15-1040-46	FLAT WASHER	
D	2B		N83-3006-46	PAN HEAD TAPTITE SCREW	
E	2B		N87-3012-46	BRAZIER HEAD SCREW	
F	1B		N89-3006-45	BINDING HEAD SCREW (Black)	
G	2B		N89-3006-46	BINDING HEAD SCREW	
22	1A		W01-0746-05	TERMINAL SET (Accessory) (CC)	EM
23	1A	*	W01-0747-05	RUBBER TUBE ASSY (Accessory)	
<b>PREAMPLIFIER UNIT (X08-4020-10)</b>					
C1 , 2			CK45FB1H102K	CERAMIC 100PF	K
C3 , 4			CE04DW1C100M	ELECTRO 10UF	16WV
C5 , 6			CC45FCH1H150J	CERAMIC 15PF	J
C7 , 8			CK45FF1H103Z	CERAMIC 0.010UF	Z
C13 , 14			CC45FCH1H150J	CERAMIC 15PF	J
C15 , 16			CE04DW1C470M	ELECTRO 47UF	16WV
C17 , 18			CF92FV1H334J	MF-C 0.33UF	J
C19 , 20			CF92FV1H473J	MF-C 0.047UF	J
C25 - 30			CK45FF1H103Z	CERAMIC 0.010UF	Z
C31 , 32			CE04DW1E220M	ELECTRO 22UF	25WV
C33 , 34			CE04DW1C100M	ELECTRO 10UF	16WV
C35 , 36			CK45FB1H471K	CERAMIC 470PF	K
C37 , 38			CK45FB1H101K	CERAMIC 100PF	K
C39 , 40			CE04DW0J101M	ELECTRO 100UF	6.3WV
C41 , 42			CC45FSL1H100D	CERAMIC 10PF	D
C43 , 44			CK45FB1H101K	CERAMIC 100PF	K
C45			CE04DW1C221M	ELECTRO 220UF	16WV
C46			CE04DW1V471M	ELECTRO 470UF	35WV
C50			CF92FV1H102J	MF-C 1000PF	J
C101, 102			CK45FB1H102K	CERAMIC 1000PF	K

Ref.No.	A d d	N e w	Prts No.	Description	Dest inati on
C103, 104			CE04DW1C100M	ELECTRO 10UF	16WV
C105, 106			CC45FCH1H150J	CERAMIC 15PF	J
C113, 114			CC45FCH1H150J	CERAMIC 15PF	J
C115, 116			CE04DW1C470M	ELECTRO 47UF	16WV
C117, 118			CF92FV1H334J	MF-C 0.33UF	J
C119, 120			CF92FV1H473J	MF-C 0.047UF	J
C125, 126			CK45FF1H103Z	CERAMIC 0.010UF	Z
C129, 130			CK45FF1H103Z	CERAMIC 0.010UF	Z
C133, 134			CE04DW1C100M	ELECTRO 10UF	16WV
C135, 136			CK45FB1H471K	CERAMIC 470PF	K
C137, 138			CK45FB1H101K	CERAMIC 100PF	K
C139, 140			CE04DW0J101M	ELECTRO 100UF	6.3WV
C141, 142			CC45FSL1H100D	CERAMIC 10PF	D
C143, 144			CK45FB1H101K	CERAMIC 100PF	K
C145			CE04DW1C221M	ELECTRO 220UF	16WV
C146			CE04DW1V471M	ELECTRO 470UF	35WV
C150			CF92FV1H102J	MF-C 1000PF	J
CN1 , 2			E40-9468-05	FLAT CABLE CONNECTOR	
J1	2A		E63-0830-05	PHONO JACK (LINE IN/OUT)	
H	3A		N80-3010-45	PAN HEAD SCREW (Black)	
R1 , 2			RD14BB2C821J	RD 820	J 1/6W
R3 , 4			RD14BB2C912J	RD 9.1K	J 1/6W
R5 - 8			RD14BB2C472J	RD 4.7K	J 1/6W
R9 - 13			RD14BB2C222J	RD 2.2K	J 1/6W
R17 , 18			RD14BB2C560J	RD 56	J 1/6W
R19 - 22			RD14BB2C222J	RD 2.2K	J 1/6W
R23 - 26			RD14BB2C273J	RD 27K	J 1/6W
R27 , 28			RD14BB2C123J	RD 12K	J 1/6W
R30			RD14BB2C102J	RD 1.0K	J 1/6W
R31 - 36			RD14BB2C103J	RD 10K	J 1/6W
R37 , 38			RD14BB2C302J	RD 3.0K	J 1/6W
R39 , 40			RD14BB2C103J	RD 10K	J 1/6W
R41 , 42			RD14BB2C222J	RD 2.2K	J 1/6W
R43 , 44			RD14BB2C163J	RD 16K	J 1/6W
R45 - 48			RD14BB2C222J	RD 2.2K	J 1/6W
R49 , 50			RS14KB3D151J	FL-PROOF RS 150	J 2W
R51 , 52			RD14BB2C473J	RD 47K	J 1/6W
R53			RD14BB2C222J	RD 2.2K	J 1/6W
R55 , 56			RD14BB2C472J	RD 4.7K	J 1/6W
R57 , 58			RD14BB2C332J	RD 3.3K	J 1/6W
R59 , 60			RD14BB2C183J	RD 18K	J 1/6W
R61 , 62			RD14BB2C101J	RD 100	J 1/6W
R63 , 64			RD14BB2C821J	RD 820	J 1/6W
R65 , 66			RD14BB2C752J	RD 7.5K	J 1/6W
R67 , 68			RD14BB2C821J	RD 820	J 1/6W
R69 , 70			RD14BB2C112J	RD 1.1K	J 1/6W
R71 , 72			RD14BB2E183J	RD 18K	J 1/4W
R73 , 74			RD14BB2C680J	RD 68	J 1/6W
R75			RD14BB2C332J	RD 3.3K	J 1/6W
R76			RD14BB2C103J	RD 10K	J 1/6W
R77			RD14BB2E331J	RD 330	J 1/4W
R78			RD14BB2E100J	RD 10	J 1/4W
R79			RD14BB2E331J	RD 330	J 1/4W

K: North America E: Europe M: Other Areas  
W: Without Europe

⚠ indicates safety critical components.



## PARTS LIST

## \*New Parts

Parts without Part No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
R95, 96			RD14BB2C202J	RD 2.0K J 1/6W	
R98, 99			RD14BB2C121J	RD 120 J 1/6W	
R101, 102			RD14BB2C821J	RD 820 J 1/6W	
R103, 104			RD14BB2C912J	RD 9.1K J 1/6W	
R105-108			RD14BB2C472J	RD 4.7K J 1/6W	
R109-113			RD14BB2C222J	RD 2.2K J 1/6W	
R117, 118			RD14BB2C560J	RD 56 J 1/6W	
R119-122			RD14BB2C222J	RD 2.2K J 1/6W	
R123-126			RD14BB2C273J	RD 27K J 1/6W	
R127, 128			RD14BB2C123J	RD 12K J 1/6W	
R130			RD14BB2C102J	RD 1.0K J 1/6W	
R131-136			RD14BB2C103J	RD 10K J 1/6W	
R137, 138			RD14BB2C302J	RD 3.0K J 1/6W	
R139, 140			RD14BB2C103J	RD 10K J 1/6W	
R141, 142			RD14BB2C222J	RD 2.2K J 1/6W	
R143, 144			RD14BB2C163J	RD 16K J 1/6W	
R145-148			RD14BB2C222J	RD 2.2K J 1/6W	
R151, 152			RD14BB2C473J	RD 47K J 1/6W	
R153			RD14BB2C222J	RD 2.2K J 1/6W	
R155, 156			RD14BB2C472J	RD 4.7K J 1/6W	
R157, 158			RD14BB2C332J	RD 3.3K J 1/6W	
R159, 160			RD14BB2C183J	RD 18K J 1/6W	
R161, 162			RD14BB2C101J	RD 100 J 1/6W	
R163, 164			RD14BB2C821J	RD 820 J 1/6W	
R165, 166			RD14BB2C752J	RD 7.5K J 1/6W	
R167, 168			RD14BB2C821J	RD 820 J 1/6W	
R169, 170			RD14BB2C112J	RD 1.1K J 1/6W	
R171, 172			RD14BB2E183J	RD 18K J 1/4W	
R173, 174			RD14BB2C680J	RD 68 J 1/6W	
R177			RD14BB2E331J	RD 330 J 1/4W	
R178			RD14BB2E100J	RD 10 J 1/4W	
R179			RD14BB2E331J	RD 330 J 1/4W	
R201-204			RD14BB2H151J	SMALL-RD 150 J 1/2W	
VR1, 2	2A		R31-0207-05	VARIABLE RESISTOR (IN. SENS.)	
VR3, 4	2A		R31-0208-05	VARIABLE RESISTOR (FREQUENCY)	
S1, 2	2A		S31-2630-05	SLIDE SWITCH (FILTER, OPE.)	
S3			S62-0842-05	SLIDE SWITCH (INPUT SELECTOR)	
S11, 12	2A		S31-2630-05	SLIDE SWITCH (FILTER, OPE.)	
D1 -8			1SS176	DIODE	
D9 -12			RD8.2JS(B)	ZENER DIODE	
D13			1SS176	DIODE	
D14			RD16JS(B)	ZENER DIODE	
D15, 16			1SS176	DIODE	
D101-108			1SS176	DIODE	
D113			1SS176	DIODE	
D114			RD16JS(B)	ZENER DIODE	
D115, 116			1SS176	DIODE	
IC1			UPC4574C	IC(OP AMP X4)	
IC3			UPC4574C	IC(OP AMP X4)	
IC5			UPC4574C	IC(OP AMP X4)	
IC6			NJM4565D	IC(OP AMP X2)	
IC11			UPC4574C	IC(OP AMP X4)	
IC15			UPC4574C	IC(OP AMP X4)	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
Q1, 2			2SC945(A)(Q,P)	TRANSISTOR	
Q3 -6			2SA733(A)(Q,P)	TRANSISTOR	
Q7 -10			2SC1845(F,E)	TRANSISTOR	
Q101, 102			2SC945(A)(Q,P)	TRANSISTOR	
Q103-106			2SA733(A)(Q,P)	TRANSISTOR	
Q107-110			2SC1845(F,E)	TRANSISTOR	
AUDIO UNIT (X09-5150-10)					
D25			B30-1460-05	LED (Red)	
C1 -4			CK45FB1H101K	CERAMIC 100PF K	
C7			C90-2688-05	ELECTRO 2200UF 16WV	
C8 -10			CE04DW1V101M	ELECTRO 100UF 35WV	
C11			CE04DW1C100M	ELECTRO 10UF 16WV	
C13, 14			CE04DW1V220M	ELECTRO 22UF 35WV	
C15, 16			CF92FV1H102J	MF-C 1000PF J	
C21, 22			CE04DW1H4R7M	ELECTRO 4.7UF 50WV	
C23, 24			CF92FV1H473J	MF-C 0.047UF J	
C27			CE04DW1C100M	ELECTRO 10UF 16WV	
C51, 52			C90-1616-05	ELECTRO 3300UF 35WV	
C55			CF92FV1H222J	MF-C 2200PF J	
C57			C90-2688-05	ELECTRO 2200UF 16WV	
C58			CE04DW1H010M	ELECTRO 1.0UF 50WV	
C61			CE04DW1V470M	ELECTRO 47UF 35WV	
C64			CF92FV1H102J	MF-C 1000PF J	
C65			CE04DW1C100M	ELECTRO 10UF 16WV	
C66			CE04DW1H010M	ELECTRO 1.0UF 50WV	
C101-104			CK45FB1H101K	CERAMIC 100PF K	
C113, 114			CE04DW1V220M	ELECTRO 22UF 35WV	
C115, 116			CF92FV1H102J	MF-C 1000PF J	
C121, 122			CE04DW1H4R7M	ELECTRO 4.7UF 50WV	
C123, 124			CF92FV1H473J	MF-C 0.047UF J	
J1	2A		E70-0820-05	SCREW TERMINAL (POWER IN)(CC)	
J2	2A		J13-0601-05	FUSE HOLDER (FUSE) (C.C.)	
J3	2A		J13-0603-05	FUSE HOLDER (FUSE)	
J4	2B		E70-0819-05	SCREW TERMINAL (SP. OUTPUT)	
J5	2A		E70-0818-05	SCREW TERMINAL (P.CON)	
TP1, 2			E40-3640-05	PIN ASSY	
WH1, 2	*		E31-8103-05	LEAD WIRE	
L1			L33-1015-05	CHOKE COIL	
T1	*		L19-0551-05	DC/DC CONVERTER	
H	2B		N80-3010-45	PAN HEAD SCREW (Black)	
J	2B		N80-2608-45	PAN HEAD SCREW (Black)	
R1, 2			RD14BB2C473J	RD 47K J 1/6W	
R3			RD14BB2C562J	RD 5.6K J 1/6W	
R4			RD14BB2C333J	RD 33K J 1/6W	
R5			RD140B2H182J	SMALL-RD 1.8K J 1/2W	
R6			RD14BB2C303J	RD 30K J 1/6W	
R7			RD14BB2C562J	RD 5.6K J 1/6W	
R8, 9			RD14BB2C472J	RD 4.7K J 1/6W	
R25 -28			RD14BB2C272J	RD 2.7K J 1/6W	
R29, 30			RD14BB2C562J	RD 5.6K J 1/6W	
R31, 32			RD14BB2C272J	RD 2.7K J 1/6W	
R33 -36			RD14BB2C101J	RD 100 J 1/6W	

K: North America E: Europe M: Other Areas  
W: Without Europe

⚠ indicates safety critical components.

## PARTS LIST

\*New Parts

Parts without Part No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.


Teile ohne Parts No. werden nicht geliefert.

(X09-5150-10)

Ref.No.	A d d w	Parts No.	Description	Dest inati on
R37 , 38		RD14DB2H101J	SMALL-RD 100 J 1/2W	
R41 -44		R92-2115-05	METAL FILMR 0.1 J 2W	
R45 , 46		RD14BB2C432J	RD 4.3K J 1/6W	
R47 , 48		RD14BB2C271J	RD 270 J 1/6W	
R49 , 50		RD14BB2C103J	RD 10K J 1/6W	
R51 , 52		RD14DB2H100J	SMALL-RD 10 J 1/2W	
R61 , 62		RD14BB2C152J	RD 1.5K J 1/6W	
R65 , 66		RD14BB2C680J	RD 68 J 1/6W	
R67 , 68		RD14BB2C472J	RD 4.7K J 1/6W	
R71		RD14DB2H100J	SMALL-RD 10 J 1/2W	
R72 , 73		RD14BB2C332J	RD 3.3K J 1/6W	
R74 , 75		RD14BB2C122J	RD 1.2K J 1/6W	
R77		RD14BB2C682J	RD 6.8K J 1/6W	
R78		RD14BB2C154J	RD 150K J 1/6W	
R80		RD14BB2C101J	RD 100 J 1/6W	
R83		RD14BB2C223J	RD 22K J 1/6W	
R84		RD14BB2C163J	RD 16K J 1/6W	
R86		RD14BB2C472J	RD 4.7K J 1/6W	
R87		RD14BB2C681J	RD 680 J 1/6W	
R88		RD14BB2C103J	RD 10K J 1/6W	
R89		RD14BB2C272J	RD 2.7K J 1/6W	
R90		RD14BB2C242J	RD 2.4K J 1/6W	
R91		RD14BB2C273J	RD 27K J 1/6W	
R92		RD14BB2C684J	RD 680K J 1/6W	
R93		RD14BB2C273J	RD 27K J 1/6W	
R94		RD14BB2C103J	RD 10K J 1/6W	
R95 , 96		RD14BB2E152J	RD 1.5K J 1/4W	
R101, 102		RD14BB2C473J	RD 47K J 1/6W	
R125-128		RD14BB2C272J	RD 2.7K J 1/6W	
R129, 130		RD14BB2C562J	RD 5.6K J 1/6W	
R131, 132		RD14BB2C272J	RD 2.7K J 1/6W	
R133-136		RD14BB2C101J	RD 100 J 1/6W	
R137, 138		RD14DB2H101J	SMALL-RD 100 J 1/2W	
R141-144		R92-2115-05	METAL FILMR 0.1 J 2W	
R145, 146		RD14BB2C432J	RD 4.3K J 1/6W	
R147, 148		RD14BB2C271J	RD 270 J 1/6W	
R149, 150		RD14BB2C103J	RD 10K J 1/6W	
R151, 152		RD14DB2H100J	SMALL-RD 10 J 1/2W	
R201-236		RD14BB2E221J	RD 220 J 1/4W	
VR1 , 2		R12-1618-05	TRIMMING POT. (3.3K)	
VR11, 12		R12-1618-05	TRIMMING POT. (3.3K)	
D1 -4		1SS176	DIODE	
D6 , 7		1SS176	DIODE	
D8		RD10JS(B)	ZENER DIODE	
D9 , 10		1SS176	DIODE	
D11		D10LC20U*A	DIODE	
D12		D10LC20UR*A	DIODE	
D15		RM4ZLF-J1	DIODE	
D16		RD7.5JS(B)	ZENER DIODE	
D17		1SS176	DIODE	
D18		RD20JS(B)	ZENER DIODE	
D19		RD5.1JS(B)	ZENER DIODE	
D23 , 24		1SS176	DIODE	
D51 , 52		1SS176	DIODE	

Ref.No.	A d d w	Parts No.	Description	Dest inati on
D101-104		1SS176	DIODE	
D151, 152		1SS176	DIODE	
IC1		UPC494C	IC(SWITCHING REGULATOR)	
Q1 , 2		2SC945(A)(Q, P)	TRANSISTOR	
Q3		2SA733(A)(Q, P)	TRANSISTOR	
Q4		2SC945(A)(Q, P)	TRANSISTOR	
Q7		2SC1845(F, E)	TRANSISTOR	
Q11 , 12		2SC2590(Q, R)	TRANSISTOR	
Q13 , 14		2SC1627A	TRANSISTOR	
Q15 , 16		2SA817A	TRANSISTOR	
Q17 , 18		2SC5100LB	TRANSISTOR	
Q19 , 20		2SA1908LB	TRANSISTOR	
Q21 -24		2SC945(A)(Q, P)	TRANSISTOR	
Q25 , 26		2SA733(A)(Q, P)	TRANSISTOR	
Q27 -30		MTAJ30N06ELFK	FET	
Q31		2SC945(A)(Q, P)	TRANSISTOR	
Q32		2SA733(A)(Q, P)	TRANSISTOR	
Q33		2SC945(A)(Q, P)	TRANSISTOR	
Q35 , 36		2SC3940A(R, S)	TRANSISTOR	
Q107		2SC1845(F, E)	TRANSISTOR	
Q111, 112		2SC2590(Q, R)	TRANSISTOR	
Q113, 114		2SC1627A	TRANSISTOR	
Q115, 116		2SA817A	TRANSISTOR	
Q117, 118		2SC5100LB	TRANSISTOR	
Q119, 120		2SA1908LB	TRANSISTOR	
Q121, 122		2SC945(A)(Q, P)	TRANSISTOR	
TH1		ERT-D2ZHL103S	THERMISTOR	

K: North America E: Europe M: Other Areas  
W: Without Europe

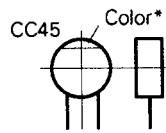
 indicates safety critical components.

## PARTS DESCRIPTIONS

## CAPACITORS

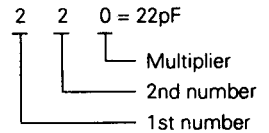
CC	45	TH	1H	220	J
1	2	3	4	5	6

- 1 = Type ... ceramic, electrolytic, etc.      4 = Voltage rating  
 2 = Shape ... round, square, ect.          5 = Value  
 3 = Temp. coefficient                              6 = Tolerance



## • Capacitor value

- 010 = 1pF  
 100 = 10pF  
 101 = 100pF  
 102 = 1000pF = 0.001μF  
 103 = 0.01μF



## • Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

## • Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF -10 ~ +50 Less than 4.7μF -10 ~ +75

## (Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

## • Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

## • Chip capacitors

- (EX) C C 7 3 F S L 1 H 0 0 0 J  
 1 2 3 4 5 6 7  
 (Chip) (CH, RH, UJ, SL)
- (EX) C K 7 3 F F 1 H 0 0 0 Z  
 1 2 3 4 5 6 7  
 (Chip) (B, F)
- Refer to the table above.
- 1 = Type  
 2 = Shape  
 3 = Dimension  
 4 = Temp. coefficient  
 5 = Voltage rating  
 6 = Value  
 7 = Tolerance

## Dimension (Chip capacitors)

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

## RESISTORS

## • Chip resistor (Carbon)

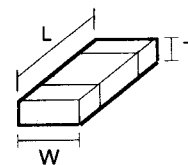
- (EX) R K 7 3 E B 2 B 0 0 0 J  
 1 2 3 4 5 6 7  
 (Chip) (B, F)

## • Carbon resistor (Normal type)

- (EX) R D 1 4 B B 2 C 0 0 0 J  
 1 2 3 4 5 6 7

- 1 = Type    5 = Rating wattage  
 2 = Shape    6 = Value  
 3 = Dimension                                    7 = Tolerance  
 4 = Temp. coefficient

## Dimension



## Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

## Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

## SPECIFICATIONS

Specifications subject to change without notice.

### Audio Section

Max power output (4  $\Omega$ )

4 Channel mode.....	100 W x 4
3 Channel mode .....	100 W x 2 +300 W x 1
2 Channel mode.....	300 W x 2

Rated power output (4  $\Omega$ )

4 Channel mode (20 Hz ~20 kHz, less than 0.08% THD).....	50 W x 4
3 Channel mode (1 kHz, 0.08% THD) + (1 kHz, 0.8% THD) .....	50 W x 2 +150 W x 1
2 Channel mode (1 kHz, 0.8% THD) .....	150 W x 2

Rated power output (2  $\Omega$ )

4 Channel mode (1 kHz, 0.8% THD) .....	75 W x 4
--	----------

Frequency Response (+0, -1 dB) .....5 Hz ~ 50 kHz

Signal to Noise Ratio .....100 dB

Sensitivity (MAX) (rated output) .....0.15 V

Sensitivity (MIN) (rated output) .....4.0 V

Input Impedance .....10 k $\Omega$

Low pass filter (12 dB/oct.) (Variable).....50 ~ 200 Hz

High pass filter (12 dB/oct.) (Variable).....50 ~ 200 Hz

### General

Operating voltage (11 ~ 16V allowable).....14.4 V

Current consumption (1 kHz, 10% THD) .....38 A

Dimensions(W x H x D) .....290 x 52 x 280 mm  
(11-7/16 x 2-1/16 x 11 in.)

Weight.....3.6 kg (7.9 lb)

KENWOOD follows a policy of continuous advancements in development.  
For this reason specifications may be changed without notice.

#### Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on North America (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

## KENWOOD CORPORATION

14-6,Dogenzaka 1-chome, Shibuya-ku, Tokyo, 150 Japan

### KENWOOD SERVICE CORPORATION

P.O BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.

### KENWOOD ELECTRONICS CANADA INC.

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

### KENWOOD ELECTRONICS LATIN AMERICA S.A.

P.O BOX 55-2791, Piso 6 plaza Chase, Cl. 47 y Aquilino de la Guardia Panama, Republic de Panama

### KENWOOD ELECTRONICS U.K. LIMITED

KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB., United Kingdom

### KENWOOD ELECTRONICS BENELUX N.V.

Meachelsesteenweg 418, B-1930 Zaventem, Belgium

### KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker Str. 15, 63150 Heusenstamm, Germany

### KENWOOD ELECTRONICS FRANCE S.A.

13 Boulevard Ney, 75018 Paris, France

### KENWOOD ELECTRONICS ITALIA S.p.A.

Via G. Sirtori, 7/9 20129, Milano, Italy

### KENWOOD IBÉRICA S.A.

Bolivia, 239-08020 Barcelona, Spain

### KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (A.C.N. 001499 074)

P.O Box 504, 8 Figtree Drive, Australia Centre, Homebush, N.S.W. 2140, Australia

### KENWOOD & LEE ELECTRONICS, LTD.

Unit 3712-3724, Level 37, Tower 1, Metroplaza, 223 Hing Fong Road, Kwai Fong N.T., Hong Kong

### KENWOOD ELECTRONICS SINGAPORE PTE LTD.

No. 1 Genting Lane #02-02, KENWOOD Building, Singapore, 349544

### KENWOOD ELECTRONICS (MALAYSIA) SDN BHD.

#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1 46300 Petaling Jaya Selangor Darul Ehsan Malaysia